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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,341	08/19/2003	Karl-Heinz Forster	163-42	5853
23869	7590	06/20/2005	EXAMINER	
HOFFMANN & BARON, LLP 6900 JERICO TURNPIKE SYOSSET, NY 11791			KIM, PAUL L	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,341

Applicant(s)

FORSTER ET AL.

Examiner

Paul Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-30 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 20-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Discenzo.

With regard to claims 20 and 21, Discenzo teaches an apparatus for determining an operational status of a cycle fluid power system comprising: a sensor for sensing a system characteristic, wherein the characteristic is flow rate (fig. 2 & fig. 9, part 941), a calculating unit for performing mathematical integration on the system characteristic to determine diagnostic value and comparing the value to a predetermined value to determine system performance status (fig. 9, part 970 and ¶ 91 & 92), and a notification device (fig. 9, part 913).

With regard to claim 22, Discenzo teaches the diagnostic value being determined based upon flow rate signal (¶ 17).

With regard to claim 23, Discenzo teaches a processor integrating the system characteristic over time (fig. 9, part 966).

With regard to claim 24, Discenzo teaches the system's characteristics being differentiated to determine the values over which the integration of the systems characteristic takes place (§ 88 & 89).

With regard to claim 25, Discenzo teaches the calculating unit being connected to a control device (fig. 9, part 970).

With regard to claim 26, Discenzo teaches the processor comparing the diagnostic value to a predetermined value and generating a notification (fig. 9, part 913).

With regard to claims 27 and 28, Discenzo teaches a fluid power system having a monitor comprising: a valve in fluid communication with a fluid source, an actuator operatively connected to the valve (§ 158), a sensor (fig. 9, part 941), a calculating unit for performing mathematical integration on the system characteristic to determine diagnostic value and comparing the value to a predetermined value to determine system performance status (fig. 9, part 970 and § 91 & 92), and a notification device (fig. 9, part 913).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-19, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Discenzo in view of Metso et al.

With regard to claims 1-3, 13, 14, and 16, Discenzo teaches a method of determining the life of a system comprising: determining a characteristic of the system to determine a characteristic value, wherein the characteristic value is flow rate (fig. 2); applying the characteristic value to an algorithm in which the value is integrated to determine a diagnostic value (§ 91 & 92); and comparing the diagnostic value to a predetermined value to determine system status (§ 146). Discenzo teaches determining operating rates over a period of time (§ 63), but does not specify determining cycle time.

(duplicate) ~~Discenzo teaches determining operating rates over a period of time (§ 63), but does not specify determining cycle time.~~ Metso et al teaches a method of diagnosing a fluid valve in which a cycle time is determined when calculating a diagnostic value (col. 5, lines 5-9). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Discenzo, so that cycle time is determined, as taught by Metso et al, in order to benefit from improved determination of the efficiency of cyclic systems.

With regard to claim 4, Discenzo teaches a flow sensor for determining flow value (fig. 9, part 941).

With regard to claim 5, Discenzo teaches a PLC being provided (§ 134).

With regard to claim 6, Discenzo teaches displaying diagnostic information (fig. 9, part 913).

With regard to claims 8 and 9, Discenzo teaches the flow rate being differentiated with respect to time (§ 93).

With regard to claim 10, Discenzo teaches the flow rate being integrated over a time period with respect to movement of an actuator (§ 158).

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With regard to claims 11, 12, 29, and 30, Discenzo teaches the flow rate being integrated but does not specify the time period defined by an actuation of a valve and return of the piston to an initial position. Metso et al teaches a method of diagnosing a cyclic system in which the time period is defined by an actuation of the valve and return to an initial position (col. 5, lines 1+). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Discenzo, so that the position of a valve is taken into account in determining the time period, as taught by Metso et al, so as to derive the benefit of a versatile system in which a variety of cyclic systems can be diagnosed.

With regard to claims 15 and 16, Discenzo teaches storing the diagnostic values and comparing the value at a first time period to a value at a second time period to determine a change in diagnostic value (§ 92).

With regard to claim 17, Discenzo teaches comparing the diagnostic value to the change in time (§ 93).

With regard to claims 18 and 19, Discenzo teaches a method of determining the life of a system comprising: sensing a characteristic of the system to determine a characteristic value, wherein the characteristic value is flow rate (fig. 2); applying the characteristic value to a first algorithm to determine a beginning and end of a cycle (§ 88 & 90), subjecting the characteristic value to a second algorithm to determine a diagnosis value (§ 91 & 92); and comparing the diagnostic value to a set of known values (§ 146). Discenzo teaches determining operating rates over a period of time (§ 63), but does not specify determining cycle time. Metso et al teaches a method of

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diagnosing a valve in which a cycle time is determined when calculating a diagnostic value (col. 5, lines 5-9). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Discenzo, so that cycle time is determined, as taught by Metso et al, in order to benefit from improved determination of the efficiency of cyclic systems.

Allowable Subject Matter

5. Claim 7 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Junk et al, Ismailov, Peube et al, and Sperry all teach a method of diagnosing a pneumatic system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is 571-272-2217. The examiner can normally be reached on Monday-Thursday 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone numbers for


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the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

PK

June 12, 2005


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800